

8.3 Area of Squares and Rectangles

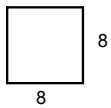
8.4 Area of Triangles

Formulas

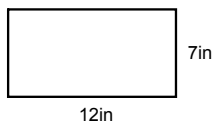
Area of Square = s^2

Area of a Rectangle = $b \cdot h$

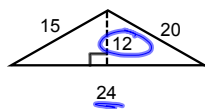
Area of a Triangle = $\frac{1}{2}bh$



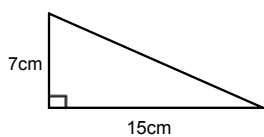
$$A = 8^2 = 64 \text{ u}^2$$



$$A = 7 \cdot 12 = 84 \text{ in}^2$$

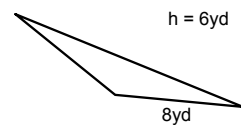


$$A = \frac{1}{2}bh = \frac{1}{2} \cdot 24 \cdot 12 = 144 \text{ u}^2$$

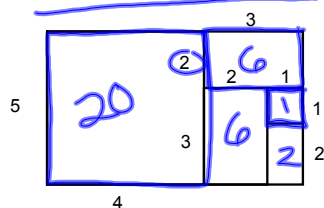


gsp1

gsp



Find the area of each rectangle.



$$A = 35 \text{ m}^2$$

$$\text{Area} = 49 \text{ cm}^2$$

$$\text{side} = 7 \text{ cm}$$

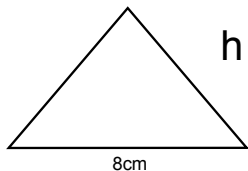


$$A = s^2$$

$$\sqrt{49} = \sqrt{s^2}$$

$$A = 24 \text{ cm}^2$$

$$h = 6 \text{ cm}$$

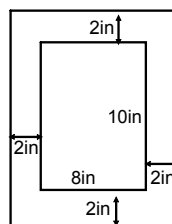


$$A = \frac{1}{2}bh$$

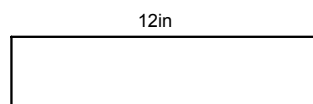
$$24 = \frac{1}{2} \cdot 8h$$

$$24 = 4h$$

What is the area of the picture?



What is the area of the frame?



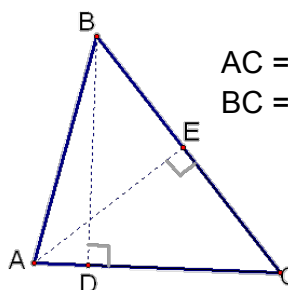
$$\text{Area} = 36 \text{ in}^2$$

$$\text{height} = 3 \text{ in}$$

$$A = bh$$

$$\frac{36}{12} = \frac{12 \cdot h}{12}$$

$$3 = h$$



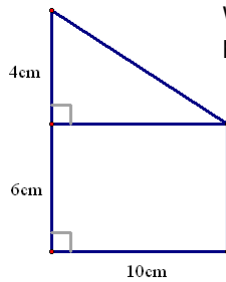
$$AC = 12$$

$$BC = 16$$

$$BD = 12$$

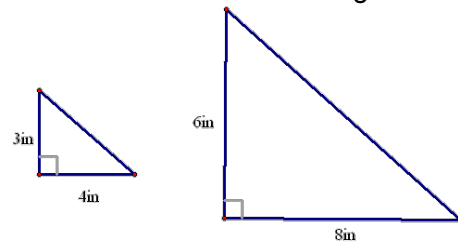
$$AE = 9$$

Which is the base?
Which is the height?



What is the area of the full picture?

Find the area of each triangle.



Are the triangles similar?

What is the scale factor?

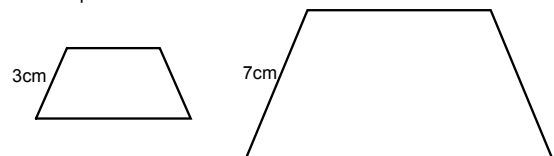
What is the ratio of the areas?

Theorem 8.3

Areas of Similar Polygons

Two similar polygons with a scale factor of $a:b$, have a ratio of areas of $a^2:b^2$.

The trapezoids are similar.



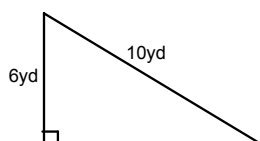
What is the scale factor? $3:7$

What is the ratio of the areas?

$9:49$

Challenge:

Find the area of the right triangle.



HW

p427-428 #s 8-22

p434-435 #s 1, 5-13, 16-18, 23, 26

Attachments

8_3_4notes_tri.gsp

Area.gsp